

A high-speed train is shown in motion, traveling from left to right across the frame. The train is white with blue accents. In the background, a city skyline is visible, featuring several tall buildings. The entire image is overlaid with a semi-transparent green filter. The text is centered and reads:

**Boston - Montreal
High Speed Rail
Feasibility and Planning Study
Phase I**

Boston-Montreal HSR Partnership

**Vermont Agency of Transportation
New Hampshire Department of Transportation
Massachusetts Executive Office of
Transportation and Construction**
with support from
Federal Railroad Administration
And collaboration with
Ministère des Transports du Québec

Presented By:
Ron O'Blenis
Parsons Brinckerhoff

FRA Designation Northern New England Corridor – November 2000



HSR Definition

1997 USDOT Report

Feasibility High Speed Ground Transportation

- ◆ **Self-Guided Intercity Passenger Ground Transportation**
- ◆ **Time Competitive - Door to Door with Air/Auto**
- ◆ **Range of 100 to 500 Miles**
- ◆ **Market-Based Not Speed-Based**

Types of HSR

◆ Accelerail-

- 90-150 mph
- Electrified or Non-Electrified
- Existing Corridors
- Acela



◆ New

- 200 mph
- Advanced Technology
- Dedicated R.O.W.
- French TGV
- Japan Bullet Train



◆ Maglev

- 300 mph
- Magnetic Forces to Lift Propel & Guide
- Specific Guideway
- Near to Commercial Operations



Overview of Phase I

- ◆ **Identify Existing Passenger and Freight Operations**
- ◆ **Identify Institutional and Infrastructure Issues**
- ◆ **Develop Station Selection Criteria**
- ◆ **Development of Ridership Forecast**

Public Participation

- ◆ **Partnering Meetings with Key Stakeholders**
- ◆ **Public Meetings – MA, NH ,VT & QC**
- ◆ **Focus Group Meetings**
- ◆ **Project Web Page**

www.bostonmontrealhsr.org

BOSTON TO MONTREAL HIGH SPEED RAIL



MONTREAL

**STUDY OVERVIEW
and STATUS**

**WHAT IS
HIGH SPEED RAIL?**

MEETINGS

GET INVOLVED!!!

FAQS

STUDY DOCUMENTS

LINKS

CONTACT US

BURLINGTON

MONTPELIER

WHITE RIVER
JUNCTION

CONCORD

MANCHESTER

NASHUA

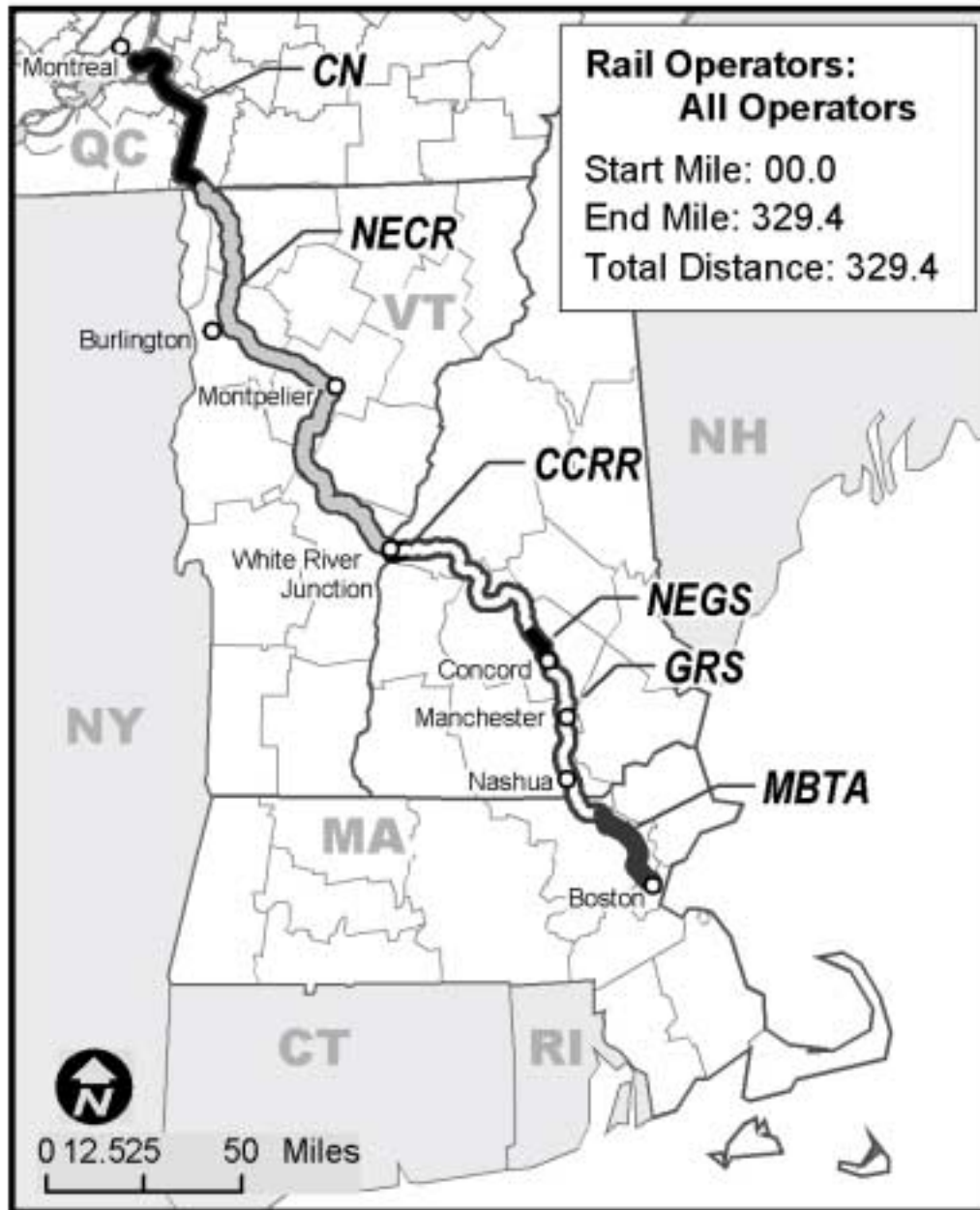
LOWELL

BOSTON

Welcome to the Boston
to Montreal
High Speed Rail Study
website.

The site contains
information about the
study, links to related
or similar studies,
methods to contact the
study team, and a
study library of material
which has been
produced.





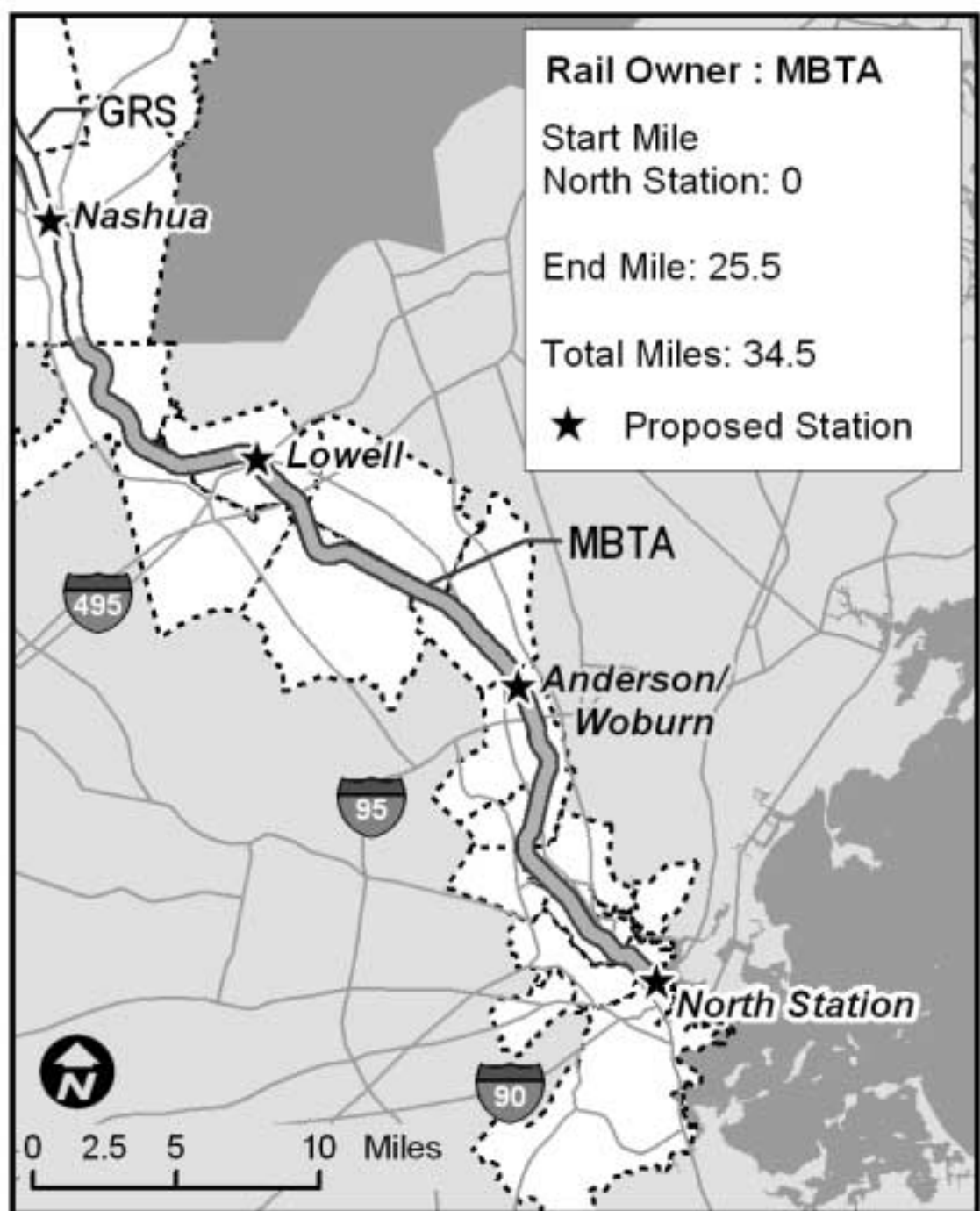
**Project
Map**

**Route
Miles
329.4**

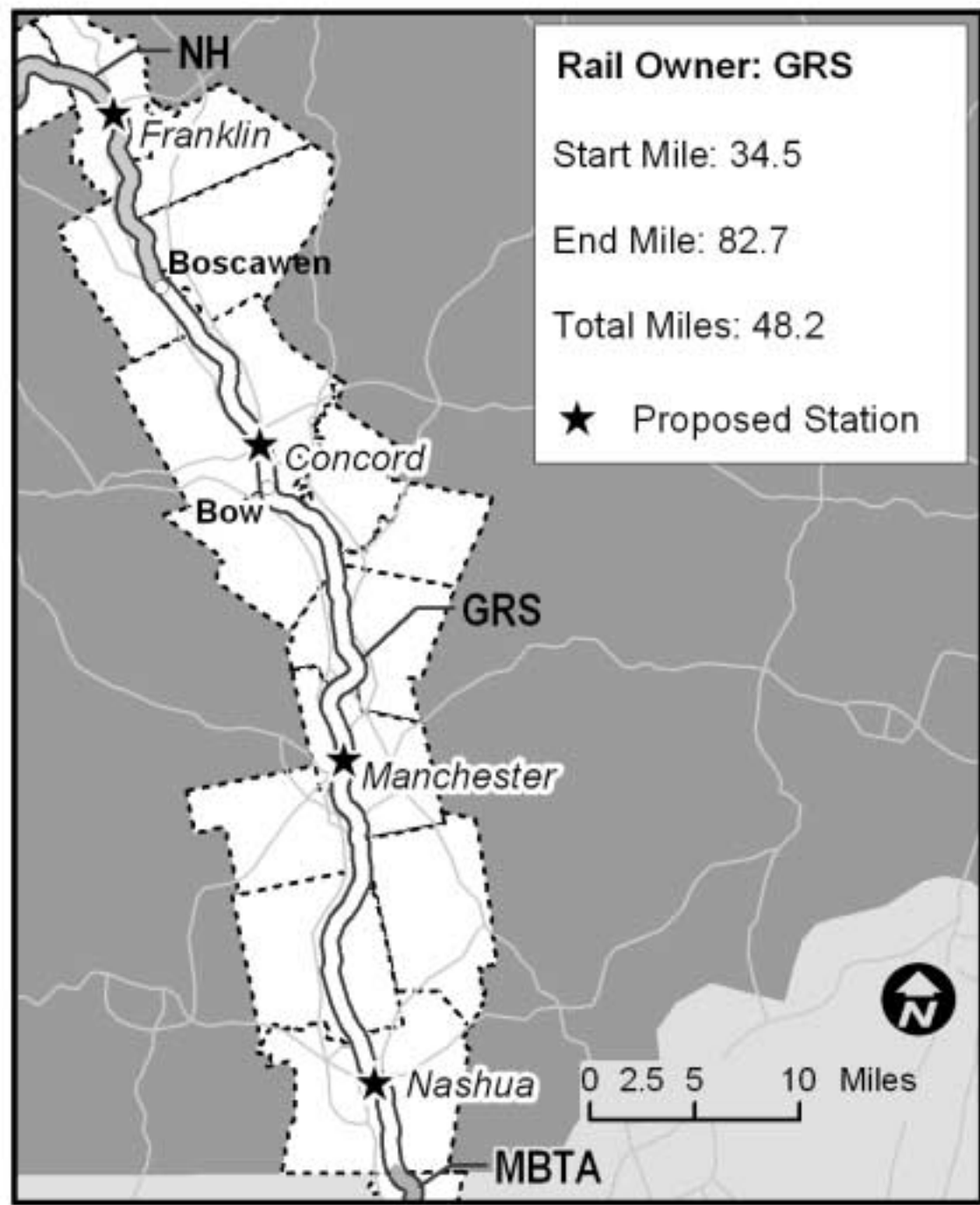
BMHSR Corridor Owners

- ◆ **Massachusetts Bay Transportation Authority**
- ◆ **Guilford Rail System**
- ◆ **State of New Hampshire**
- ◆ **New England Central R.R.**
- ◆ **Canadian National R.R.**

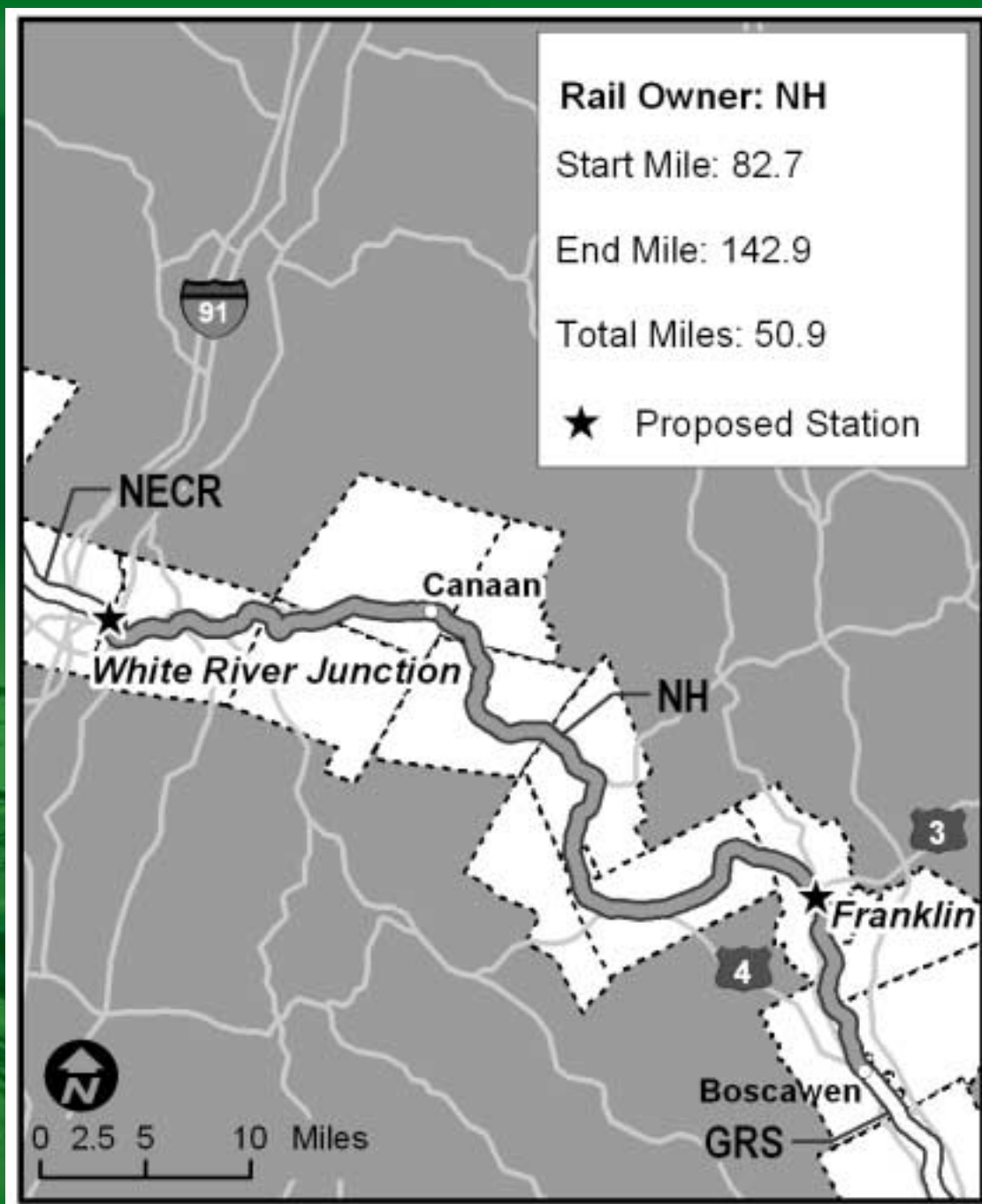
Massachusetts Bay Transportation Authority



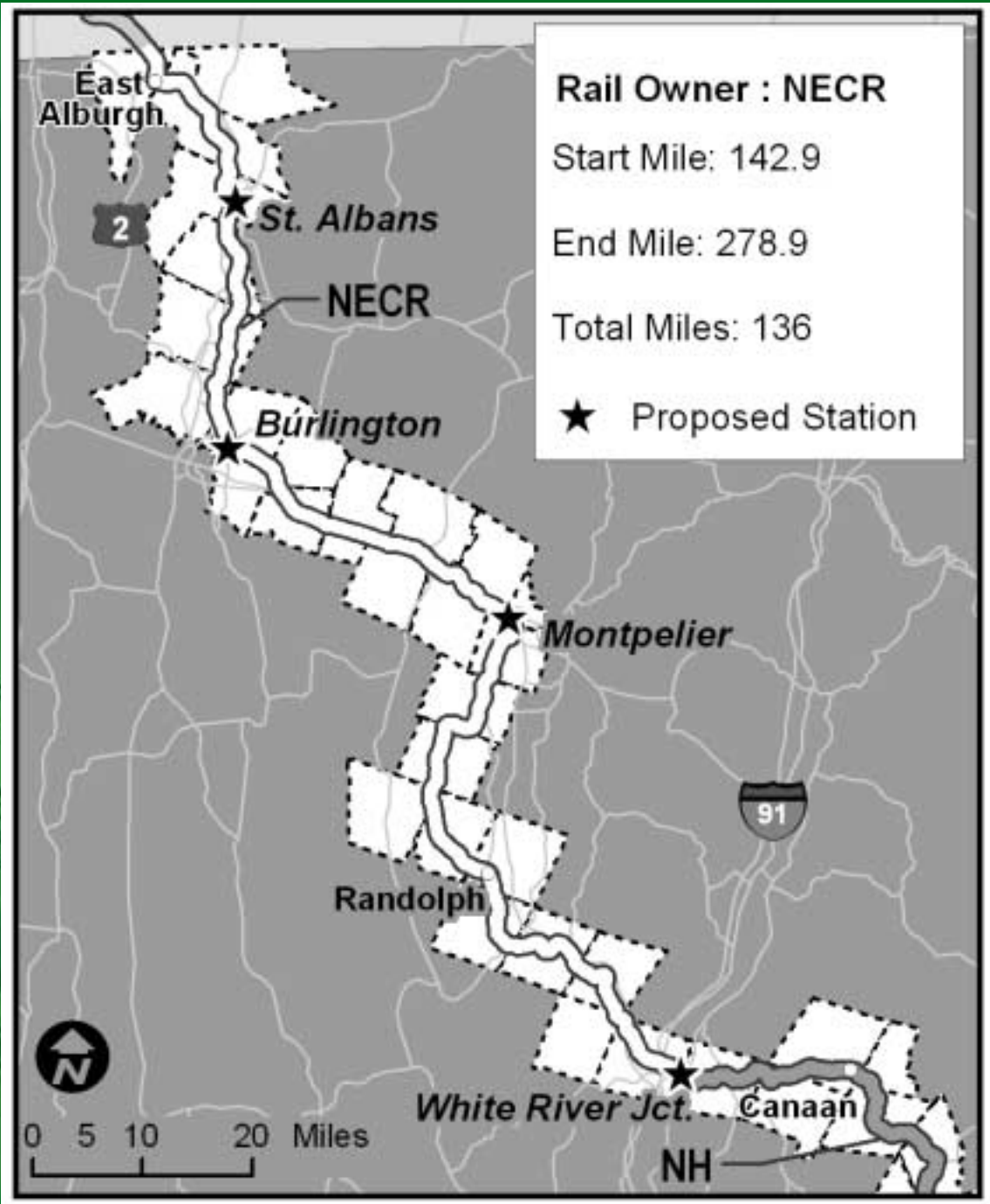
Guilford Rail System



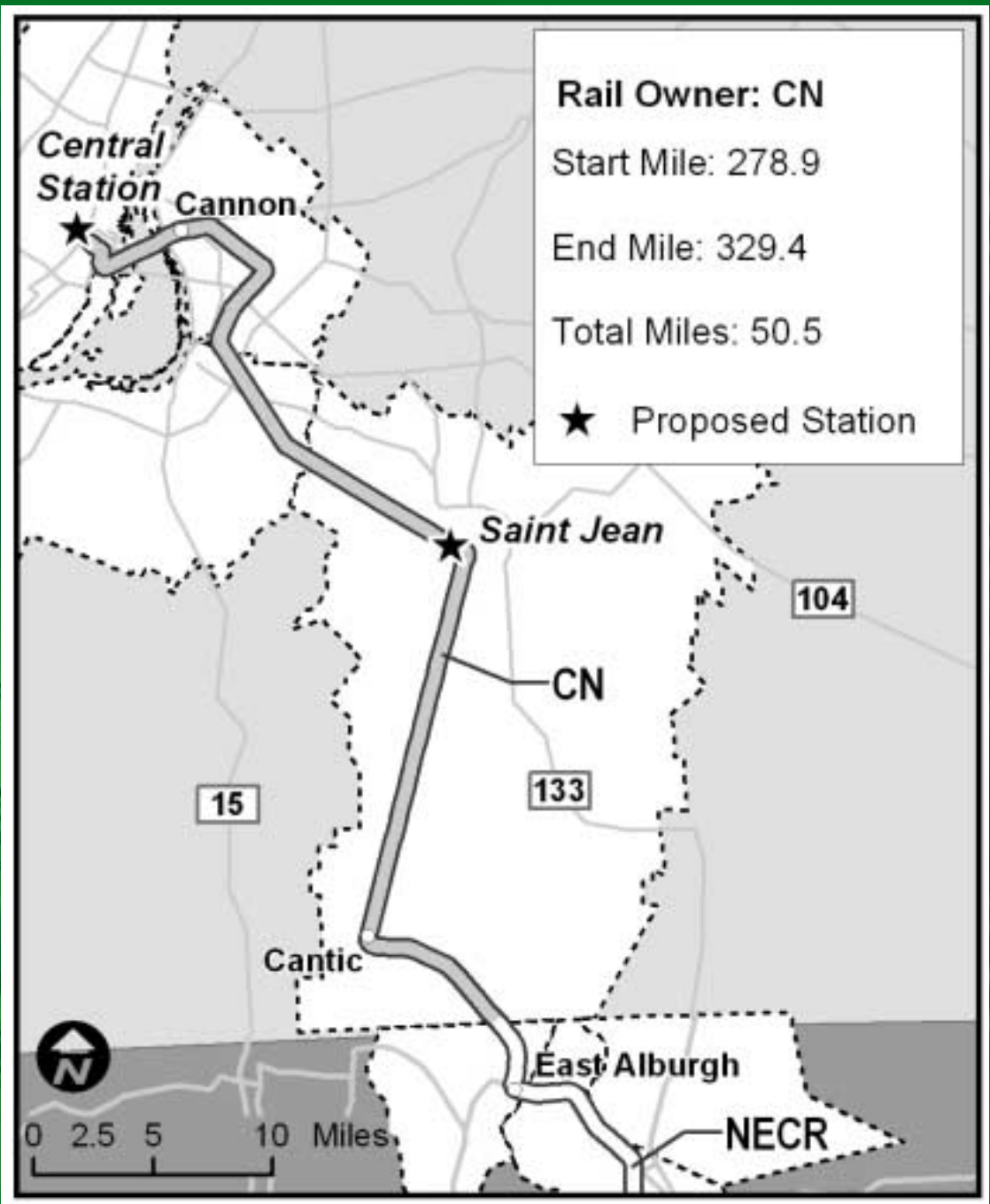
State of New Hampshire



New England Central R.R.



Canadian National R.R.



Institutional Issues

- ◆ **Existing Use of Rail Corridor for Freight and Passenger Operations**
- ◆ **Recreational Use in NH**
- ◆ **Environmental Considerations**
- ◆ **Customs and Immigration**

Infrastructure Issues

- ◆ **Capacity Likely for BMHSR**
- ◆ **Track Restoration in NH**
- ◆ **Track Improvements**
- ◆ **Signal Installation/Upgrade**
(Required for speeds >79 mph)
- ◆ **Grade Crossings – 360 Total**
(Must be grade separated >110mph)

Grade Crossing Types and Warning Devices

<u>Crossing Type</u>	<u>Number</u>
Closed	2
Farm	127
Private	47
Public	184
Total	360

Grade Crossing Types and Warning Devices

Warning Device

Number

Gates & Flashing Lights

35

Flashing Lights

84

**Cross Bucks and/
or Stop Signs**

35

NONE

155

Track Removed

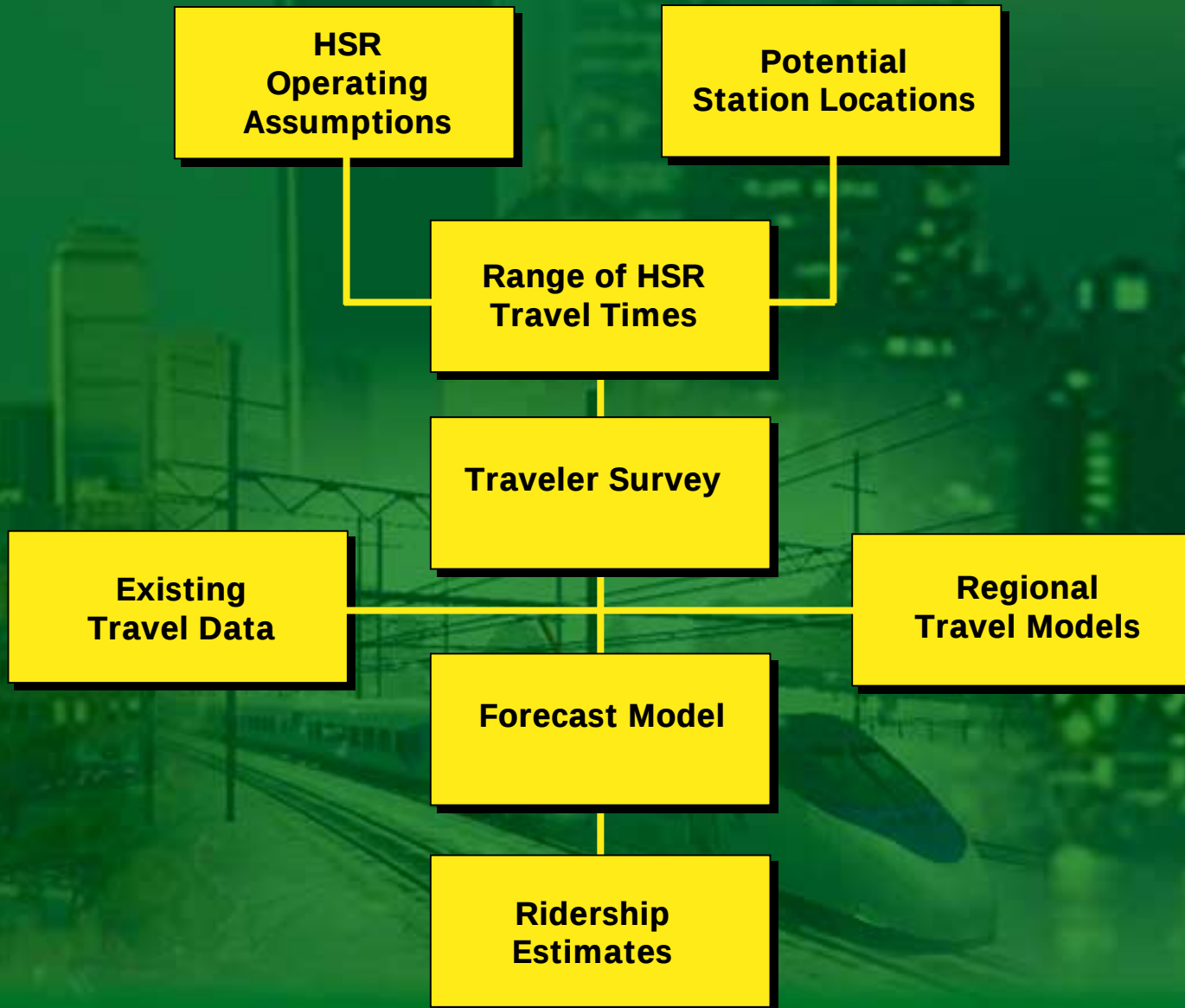
51

360

Development of Ridership Estimates

- ◆ **HSR Operating Assumption**
- ◆ **Potential Station Locations**
- ◆ **Range of HSR Travel Times**
- ◆ **Traveler Survey**
- ◆ **Collect Existing Travel Data**
- ◆ **Develop Forecasting Model**
- ◆ **Determine Ridership Forecasts**

Ridership Estimates



Phase I Operating Assumptions

HSR Service Options

- **Low Speed – Existing Conditions- 60 mph**
- **Mid Speed – Existing Conditions – 110 mph Max**
- **High Speed – No Curve Restrictions – 110 mph Max**



Phase I Operating Assumptions

Train Performance Simulator

- **Non-Electrified**
- **Train Models**
 - F59H Locomotives & Standard Coaches**
 - Talgo Tilting Train**
- **HSR Operation Only**

Phase I Operating Assumptions

Potential Station Locations

Primary

- **Boston, MA**
- **Anderson ,MA**
- **Manchester, NH**
- **White River, VT**
- **Essex JCT/Burlington, VT**
- **Montreal, QC**

Secondary

- **Lowell, MA**
- **Nashua, NH**
- **Concord, NH**
- **Franklin, NH**
- **Montpelier, VT**
- **St. Albans, VT**
- **St. Jean, QC**

Phase I Operating Assumptions

Travel Time Predictions

- **Low Speed: 7 hr 55 min**
- **Mid Speed: 4 hr 48 min**
- **High Speed 3 hr 31 min**

Ridership Forecasting

- ◆ **Existing Travel Survey**
- ◆ **Airlines**
- ◆ **Automobile**
- ◆ **Bus Lines**
- ◆ **Based on Existing Region Models & Data**

Ridership Forecasting

Assumed Costs (2002) & Travel Time

- **Auto \$0.12/Mile 5hr 52 min**
- **Air \$0.31/Mile 3hr 20 min**
- **Bus \$0.14/Mile 6hr 40 min**

Forecasts of Boston-Montreal High-Speed Rail System Ridership

<u>2025</u>	<u>Low Speed</u>	<u>Mid Speed</u>	<u>Mid Speed</u>	<u>Mid Speed</u>
Annual Ridership				
Total Corridor	213,276	330,097	446,710	683,667
Boston-Montreal	13,469	84,428	129,508	221,227
Annual Revenue				
Total Corridor	4,784,504	22,559,907	27,893,059	34,614,601
Boston-Montreal	744,341	8,739,297	11,619,093	15,271,257
Passenger Cost Per Mile	0.16	0.30	0.26	0.20
HSR Round Trips per Day	4	4	4	4

Findings

- ◆ **HSR Expected to be Compatible with Other Rail Operations**
- ◆ **No Institutional or Environmental Issues Precludes HSR**
- ◆ **Ridership Sufficient to Warrant Evaluation of Benefits and Costs**

Phase II of BMHSR Study

- ◆ **Develop Specific Operating Plan**
- ◆ **Evaluate Infrastructure Improvements**
- ◆ **Analysis Grade Crossing and Related Safety Elements**
- ◆ **Refine Ridership Forecast**
- ◆ **Determine Conceptual Capital and Operating Costs**
- ◆ **Define System Benefits**
- ◆ **Determine Potential Feasibility of BMHSR Service**

Implementation Process

- ◆ **Determination of Project Viability**
- ◆ **Environmental Assessment**
- ◆ **Identification of Funding Opportunities**
- ◆ **Engineering & Construction**
- ◆ **Implementation and Maintenance of Service**

Thank You
Comments or Questions

